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Food Habits of the Island Night Lizard, *Xantusia riversiana reticulata*, from San Clemente Island

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Because San Clemente Island, off southern California, is inaccessible to most scientific visitors, many discoveries--especially those pertaining to natural history----have yet to be made. Realizing this when I visited the island,, aboard the research ship *Orca* of the Sefton Foundation, August 18, 1948, I became interested in the food habits of the island night lizard, *Xantusia riversiana reticulata* Smith, which was found abundantly under boulders only a few yards from the shore.

Similar to its relatives **on** the mainland, the island night lizard is nocturnal in its habits. This leads to difficulty for one who studies food habits, because much of the food ingested the previous night has been completely digested when the lizard is collected. Were this lizard diurnal the data would doubtless be more complete. However, much valuable and interesting material has been obtained.

In general, a microscopic examination of the stomachs by Gordon Marsh, a fellow student at San Diego State College, has revealed that these lizards are omnivorous feeders, the amount of plant matter being approximately one third of the total matter. In the following list, the contents of 18 stomachs are analyzed. The content of each stomach is listed separately rather than together so that individual quantity and quality may be indicated.

- | | |
|---|--|
| 1. chelicerae of adult scorpion | 4. sowbug (16.7 mm.) |
| masses of herbaceous matter (dicotyledonous) | coleopterous larva |
| unidentifiable material almost digested | 5. both chelicerae, legs, and dorsum of the |
| 2. shed lizard epidermis | cephalothorax of a spider, Lycosidae |
| 3 seed types from woody dicot 2 | head of small composite flower |
| immature lepidopterous larvae | 6. femur and tibia of ground spider, Lycosidae |
| 3. ligule of grass stem and awn of grass seed | pieces of succulent, Genus <i>Mesembryanthemum</i> |
| coleopterous larva, Suborder Polyphaga | |

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|---|---|
| <p>7. abdomens of 2 silverfish, Thysanura 3
partially digested leaves of grass pieces
of succulent, <i>Mesembryanthemum</i></p> <p>8. heads of 3 black ants, Formicidae several
femurs and tibiae of black ants femur of
small ground spider, Lycosidae pieces of
succulent, <i>Mesembryanthemum</i></p> <p>9. small whole spider
carpenter ant, Formicidae
plant ovary containing 2 seeds
harvest mite (.75 mm.), Trombididae</p> <p>10. 2 isopods (land forms)
2 small spiders
strand of vascular bundles from woody
dicot
pieces of succulent, <i>Mesembryanthemum</i></p> <p>11. head and legs of a ground beetle, Car-
abidae
several stumps of grass stems
pieces of succulent, <i>Mesembryanthemum</i></p> | <p>12. ball of black ants, mostly heads
harvest mite, Trombididae
bolus of sand and small pebbles
piece of monocot leaf</p> <p>13. 2 harvest mites, Trombididae
4 large plant ovaries containing seeds
small spider
heads of 2 black ants
hemelytra and abdomen of hemipteron</p> <p>14. large spider (12.3 mm.)
grass stem
head of black ant</p> <p>15. 3 seeds and ovaries
camel cricket, Stenopelmidae 2
orb web spiders, Arigopidae</p> <p>16. ground spider, Lycosidae
scorpion chelicerae</p> <p>17. 3 large pebbles
legs and cephalothorax of small arach-
nid</p> <p>18. seed and its ovary</p> |
|---|---|

As shown by Table I, insects compose most of the animal diet of *Xantusia riversiana reticulata*; the total number of insects was 57 (50.4%), while that of both the isopods and arachnids combined composed 18.5 per cent of the total content. About 84 per cent of the insects and 66 per cent of the arachnids were composed of hymenopterans and spiders respectively. Although the total number of insects was greater than that of the arachnids, the insects were not present in as many stomachs as were the arachnids. Of the 18 stomachs only 10 (55%) of them contained insects, while 12 (66 %) of the 18 stomachs contained arachnids. Other insects, arachnids, and crustaceans such as Coleoptera, Lepidoptera, the scorpion, and Isopoda were represented in very small numbers only, composing 15.4 per cent of the total number of food fragments. The sum total of the animal particles came to 78 (68.8 %).

Most of the plant matter consisted of seeds, their ovaries, grass, and a succulent which was composed of large, thin walled, hexagonal cells. Upon the first examination, under a low power microscope, it appeared to be some sort of animal gristle, but further study proved it to be a succulent of the Genus *Mesembryanthemum*. Nine of the seed and ovary combinations were found in four (22 %) stomachs, the same number and per cent of grass fragments, and five (11.5%) of the stomachs contained a total of 10 (8.8%) fragments of the succulent. The remaining plant fragments_____unidentified

monocot and dicot, separate seeds, and a flower head_____constituted only 5.9 per cent of the total content and were found in five of the 18 stomachs. The total number of plant fragments came to 35 (30.9%), and both plant and animal fragments combined totaled to 113.

In the column "Total number of food fragments" (Table I) it must be understood that each fragment, whether complete or incomplete, is counted as one.

Table I. **Contents of Stomachs of Eighteen *X. r. reticulata*.**

ANIMAL MATTER	Number of stomachs containing following		Total number of food fragments	Percent of total content
	matter	Per cent		
Arachnids	12	66	18	15.9
scorpion	2	11	2	1.7
harvest mite	3	16	4	3.5
spider	10	55	12	10.6
Insects	10	55	57	50.4
Lepidoptera	1	5	2	1.7
Coleoptera	3	16	3	2.6
Hymenoptera	5	27	48	42.4
Thysanura	1	5	2	1.7
Hemiptera	1	5	1	.8
Orthoptera	1	5	1	.8
Crustaceans	2	11	3	2.6
Isopoda	2	11	3	2.6
Total			78	68.8
PLANT MATTER				
Unidentifiable dicot	2	11	2	1.7
Unidentifiable monocot	1	5	1	.8
Separate seeds	1	5	3	2.6
Seeds and ovaries	4	22	9	7.9
Grass	4	22	9	7.9
Head of flower	1	5	1	.8
Pieces of succulent	5	27	10	8.8
Total			35	30.9

In addition to the food matter listed, a few miscellaneous items not included in the table were present. Most interesting of these was a shed lizard skin, which may have belonged to the possessor of the stomach or to another of the same species. Another stomach contained a bolus of sand and small pebbles; another contained three pebbles, which were probably accidentally ingested with food. A great deal of the contents consisted of material digested beyond recognition.

Natural History Miscellanea, a series of miscellaneous papers initiated in 1946 as an outlet for original articles, more or less technical in nature, one to four pages in length, in any field of natural history. Individual issues, published at irregular intervals, are numbered separately and represent only one field of specialization; e. g., botany, geology, entomology, herpetology, etc. The series is distributed to libraries and scientific organizations with which the Academy maintains exchanges. A title page and index will be supplied to these institutions when a sufficient number of pages to form a volume have been printed. Individual specialists with whom the museum or the various authors maintain exchanges receive those numbers dealing with their particular fields of interest. A reserve is set aside for future exchanges and a supply of each number is available for sale at a nominal price. Authors may obtain copies for their personal exchanges at the prevailing rates for similar reprints.

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